We claim:

1. A compound of formula (I)

$$R^{1}$$
 $(CR^{3}R^{3'})_{p}$
 $(R^{5})_{z}$
 $(CH_{2})_{q}$
 $(R^{4})_{y}$
 (I)

p is 0, 1, or 2;

q is 0, 1, 2, or 3;

y is 0, 1, or 2; and z is 0, 1, or 2;

 X_1 and X_2 are each independently is CH, or N;

B is O, NR^t, S, SO, SO₂, or CH₂;

D is OH, CONR⁶R⁷, SO₂NR⁶R⁷, NR⁶COR⁷, or NR⁶R⁷; provided that when B is O, D is not CONR⁶R⁷;

 R^1 and R^2 are independently selected from hydrogen, C_1 - C_8 alkyl, C_2 - C_8 alkenyl, C_2 - C_8 alkynyl, phenyl, C_1 - C_{10} alkylaryl, C_4 - C_{10} alkylcycloalkane, and $(CH_2)_nC(O)R^8$; wherein each of the alkyl, alkenyl, and aryl groups are optionally substituted with one to two groups independently selected from C_1 - C_8 alkyl, C_2 - C_8 alkenyl, phenyl, C_3 - C_8 cycloalkyl, C_1 - C_8 alkylaryl, and $C(O)C_1$ - C_8 alkyl; and wherein R^1 and R^2 may optionally combine with each other to form a 4, 5, 6, or 7-membered nitrogen-containing heterocycle which nitrogen -containing heterocycle may further have substituents selected from the group consisting of oxo, amino, C_1 - C_8 alkyl, C_2 - C_8 alkenyl, C_2 - C_8 alkynyl, phenyl, C_1 - C_3 alkylaryl, $C(O)C_1$ - C_8 alkyl, C_0 - C_8 alkyl, halo, C_1 - C_8 alkyl, C_2 - C_8 alkenyl, C_2 - C_8 alkynyl, phenyl, aryl, C_1 - C_8 alkylcycloalkyl, and C_1 - C_8 alkylaryl; C_2 - C_8 alkynyl, phenyl, aryl, C_1 - C_8 alkylcycloalkyl, and C_1 - C_8 alkyl, C_2 - C_8 alkenyl, C_2 - C_8 alkynyl, C_1 - C_8 alkoxy, halo, C_1 - C_8 haloalkyl, phenyl, aryl, C_1 - C_8 alkylaryl, C_1 - C_8 alkyl, C_2 - C_8 alkoxy, halo, C_1 - C_8 haloalkyl, phenyl, aryl, C_1 - C_8 alkylaryl, C_1 - C_8 alkyl, C_1 - C_8 alkyl,

 $C(O)OC_1$ - C_8 alkyl; wherein each R^4 and R^5 is attached to its respective ring only at carbon atoms; wherein m is 1 or 2; and n is 1, 2, or 3;

WO 2005/092836

 R^6 and R^7 are each independently selected from hydrogen, C_1 - C_8 alkyl, C_2 - C_8 alkenyl, C_2 - C_8 alkynyl, $C(O)C_1$ - C_8 alkyl, aryl, C_1 - C_8 alkylaryl, C_3 - C_7 cycloalkane, C_1 - C_6 alkylcycloalkane, $(CH_2)_mC(O)OR^8$, and $(CH_2)_mNSO_2R^8$; wherein each of the alkyl, alkenyl, and aryl groups are optionally substituted with one to two groups independently selected from C_1 - C_8 alkyl, C_2 - C_8 alkenyl, phenyl, and C_1 - C_8 alkylaryl; and wherein when D is NR^6R^7 or $SO_2NR^6R^7$, the R^6 and R^7 groups may independently combine with each other, and with the nitrogen atom to which they are attached to form a 4, 5, 6, or 7-membered nitrogen containing heterocycle which nitrogen containing heterocycle may optionally have substituents selected from the group consisting of oxo, amino, C_1 - C_8 alkyl, C_2 - C_8 alkenyl, C_2 - C_8 alkynyl, phenyl, and C_1 - C_8 alkylaryl;

 R^{t} is selected from the group consisting of hydrogen, C_1 - C_8 alkyl, C_2 - C_8 alkenyl, C_2 - C_8 alkynyl, phenyl, and C_1 - C_8 alkylaryl;

 R^8 is independently selected from hydrogen, C_1 - C_8 alkyl, C_2 - C_8 alkenyl, phenyl, benzyl, and C_5 - C_8 alkylaryl;

or a pharmaceutically acceptable salt, solvate, prodrug, enantiomer, racemate, diastereomer, or mixture of diastereomers thereof.

- 2. The compound according to claim 1 wherein the X_1 is CH, and X_2 is CH or N
 - 3. A compound according to Claim 1 wherein X_1 is N and X_2 is CH or N.
 - 4. A compound according to Claim 1 wherein X_1 and X_2 are both CH.
- 5. A compound according to Claim 1 wherein X_1 and X_2 are both N.A compound according to Claim 1 wherein D is CH_2 or NH or S.
- 6. A compound according to Claim 1 wherein y is 0 or 1, and R⁴ is independently selected from the group consisting of fluoro, chloro, bromo, methoxy, ethoxy, methyl, ethyl, isopropyl, trifluoromethyl, phenyl, benzyl and ethoxy.

- 7. A compound according to Claim 1 wherein z is 0 or 1, and R⁵ is independently selected from the group consisting of fluoro, chloro, bromo, methoxy, ethoxy, methyl, ethyl, isopropyl, trifluoromethyl, phenyl, and benzyl.
- 8. A compound according to Claim 1 wherein R¹ and R² are each independently selected from the group consisting of hydrogen, methyl, ethyl, propyl, isopropyl, 2-methylpentyl, t-butyl, cyclopropyl, phenyl,

$$(CH_{2})_{n}$$

$$(CH_$$

- 9. The compound according to Claim 1 wherein R^6 and R^7 are each independently selected from the group consisting of hydrogen, methyl, ethyl, propyl, isopropyl, and phenyl.
 - 10. A compound selected from the group consisting of:
- 4-[4-(2-Methylamino-ethyl)-phenoxy]-phenol,
- 4-{4-[2-(Benzyl-methyl-amino)-ethyl]-phenoxy}-phenol,

Acetic acid 4-[4-(2-benzylamino-ethyl)-phenoxy]-phenyl ester,

- 6-[4-(Benzylamino-methyl)-phenylsulfanyl]-nicotinamide,
- $6\hbox{-}\{4\hbox{-}[(3\hbox{-}Methyl\hbox{-}butylamino)\hbox{-}methyl]\hbox{-}phenylsulfanyl}\}\hbox{-}nicotinamide,$
- 6-{4-[(2-Pyridin-4-yl-ethylamino)-methyl]-phenylsulfanyl}-nicotinamide,
- 6-[4-(Phenethylamino-methyl)-phenylsulfanyl]-nicotinamide,
- $6\hbox{-}\{4\hbox{-}[(Cyclopropylmethyl-amino)\hbox{-}methyl]\hbox{-}phenylsulfanyl}\}\hbox{-}nicotinamide,$

WO 2005/092836 PCT/US2005/006723

```
6-{4-[(2-Thiophen-2-yl-ethylamino)-methyl]-phenylsulfanyl}-nicotinamide,
```

- 6-{4-[(3-Phenyl-propylamino)-methyl]-phenylsulfanyl}-nicotinamide,
- 6-{4-[(3-Methyl-butylamino)-methyl]-phenylsulfanyl}-nicotinamide,
- 4-[4-(Phenethylamino-methyl)-benzenesulfonyl]-benzamide,
- 4-[4-(Phenethylamino-methyl)-benzenesulfinyl]-benzamide,
- 6-[4-(2-Benzylamino-ethyl)-phenylamino]-nicotinamide,
- 6-{4-[2-(Cyclohexylmethyl-amino)-ethyl]-phenylamino}-nicotinamide,
- 6-{4-[(2-Pyridin-4-yl-ethylamino)-methyl]-phenylsulfanyl}-nicotinamide,
- 6-[4-(Benzylamino-methyl)-phenylamino]-nicotinamide,
- 6-{4-[(Cyclohexylmethyl-amino)-methyl]-phenylamino}-nicotinamide,
- 6-[4-(Phenethylamino-methyl)-phenylamino]-nicotinamide,
- 6-{4-[(3-Methyl-butylamino)-methyl]-phenylamino}-nicotinamide,
- N-{4-[4-(2-Benzylamino-ethyl)-phenoxy]-phenyl}-acetamide,
- N-{4-[4-(2-Hexylamino-ethyl)-phenoxy]-phenyl}-acetamide,
- N-[4-(4-{2-[(Thiophen-2-ylmethyl)-amino]-ethyl}-phenoxy)-phenyl]-acetamide,
- N-(4-{4-[2-(3-Phenyl-propylamino)-ethyl]-phenoxy}-phenyl)-acetamide,
- N-(4-{4-[2-(2-Cyclohexyl-ethylamino)-ethyl]-phenoxy}-phenyl)-acetamide,
- N-{4-[4-(2-Phenethylamino-ethyl)-phenoxy]-phenyl}-acetamide,
- N-{4-[4-(2-Propylamino-ethyl)-phenoxy]-phenyl}-acetamide,
- N-{4-[4-(2-Pentylamino-ethyl)-phenoxy]-phenyl}-acetamide,
- $N-(4-\{4-[2-(Cyclohexylmethyl-amino)-ethyl]-phenoxy\}-phenyl)-acetamide,\\$
- N-(4-{4-[2-(2-Trifluoromethyl-benzylamino)-ethyl]-phenoxy}-phenyl)-acetami.de,
- $N-[4-(4-\{2-[(Furan-2-ylmethyl)-amino]-ethyl\}-phenoxy)-phenyl]-acetamide,$
- $N\hbox{-}(4\hbox{-}\{4\hbox{-}[2\hbox{-}(3\hbox{-}Chloro\hbox{-}benzylamino)\hbox{-}ethyl]\hbox{-}phenoxy}\}\hbox{-}phenyl)\hbox{-}acetamide,$
- 4-[4-(2-Benzylamino-ethyl)-phenoxy]-phenylamine,
- N-{4-[4-(2-Benzylamino-ethyl)-phenoxy]-phenyl}-benzamide,
- Morpholine-4-carboxylic acid {4-[4-(2-benzylamino-ethyl)-phenoxy]-phenyl}-amide,
- N-{4-[4-(2-Benzylamino-ethyl)-phenoxy]-phenyl}-2-methoxy-acetamide,
- Furan-2-carboxylic acid {4-[4-(2-benzylamino-ethyl)-phenoxy]-phenyl}-amide,
- Isoxazole-5-carboxylic acid {4-[4-(2-benzylamino-ethyl)-phenoxy]-phenyl}-amide,
- Thiophene-2-carboxylic acid {4-[4-(2-benzylamino-ethyl)-phenoxy]-phenyl}-armide,
- N-{4-[4-(2-Benzylamino-ethyl)-phenoxy]-phenyl}-isonicotinamide,

- 3,5-Dimethyl-isoxazole-4-carboxylic acid {4-[4-(2-benzylamino-ethyl)-phenoxy]-phenyl}-amide,
- 2-tert-Butyl-5-methyl-2H-pyrazole-3-carboxylic acid {4-[4-(2-benzylamino-ethyl)-phenoxy]-phenyl}-amide,
- 5-Methyl-isoxazole-3-carboxylic acid {4-[4-(2-benzylamino-ethyl)-phenoxy]-phenyl}-amide,
- 4-Methyl-[1,2,3]thiadiazole-5-carboxylic acid {4-[4-(2-benzylamino-ethyl)-phenoxy]-phenyl}-amide,
- N-{4-[4-(2-Benzylamino-ethyl)-phenoxy]-phenyl}-3-methylsulfanyl-propionamide,
 Quinoxaline-2-carboxylic acid {4-[4-(2-benzylamino-ethyl)-phenoxy]-phenyl}-amide,
 N-{4-[4-(2-Benzylamino-ethyl)-phenoxy]-phenyl}-nicotinamide,

Pyridine-2-carboxylic acid {4-[4-(2-benzylamino-ethyl)-phenoxy]-phenyl}-amide, N-(6-{4-[(3-Methyl-butylamino)-methyl]-phenoxy}-pyridin-3-yl)-acetamide, or a pharmaceutically acceptable salt, solvate, enantiomer, diastereomer and diastereomeric mixture thereof.

- 11. A pharmaceutical composition comprising a therapeutically effective amount of a compound according to any one of Claims 1 to 10 in association with a carrier, diluent and/or excipient.
- 12. A method for blocking a mu, kappa, delta or receptor combination (heterodimer) thereof in mammals comprising administering to a mammal requiring blocking of a mu, kappa, delta or receptor combination (heterodimer) thereof, a receptor blocking dose of a compound according to any one of Claims 1 to 10, or a pharmaceutically acceptable salt, enantiomer, racemate, mixture of diastereomers, or solvate thereof.
- 13. A method of treating or preventing obesity and Related Diseases comprising administering a therapeutically effective amount of a compound of formula I.
- 14. A method according to Claim 13 wherein the Related Diseases is selected from the group consisting of diabetes, diabetic complications, diabetic retinopathy,

WO 2005/092836 PCT/US2005/006723

69

atherosclerosis, hyperlipidemia, hypertriglycemia, hyperglycemia, and hyperlipoproteinemia.

- 15. A method of treating and/or preventing disease's related to obesity including irritable bowel syndrome, nausea, vomiting, depression, smoking and alcohol addiction, sexual dysfunction, substance abuse, drug overdose, addictive behavior disorders, compulsive behaviors, and stroke comprising admirnistering a therapeutically effective amount of a compound of formula I.
- 16. A method of suppressing appetite in a patient in need thereof, comprising administering a therapeutically effective amount of a compound of formula I.
- 17. Use of a compound of formula I in the manufacture of a medicament for the treatment and/or amelioration of the symptoms associated with obesity and Related Diseases comprising administering a therapeutically effective amount of a compound of formula I to a patient in need thereof.